Q1: Identify and explain problems prevalent in the existing design. Think about the current approach for adding support for a new kind of application. Is it possible to add new handlers for processing directory events?

Currently if you want to support a new application you need to change the code of the HandleDirectoryEvent method’s if chain and add the logic at compile time. It is not possible to add new handlers for processing directory events at runtime. The class is low in cohesiveness and fails the single purpose principle.

Q2: Explain how your new design fix the problems identified in Q1.

My new design solves the problem with the previous design by implementing the Observer and Strategy pattern. The Strategy pattern separates the implementation of each class from one another, decreasing coupling. The observer pattern does the same decreasing coupling. I have added new methods to allow you to add observers and launchers to objects which allows you to change the functionality of the application at run time. I have broken up the class into several other classes to increase cohensiveness.